

CLAIMS

1. An optical connector comprising at least one optical guide for carrying optical radiations; a total internal reflection surface upon which, in use, said radiations impinge, so that the radiation in the optical guide is reflected by said surface towards an optical element of the connector and means enabling the connector to interlock with any other optical connector which is appropriately matingly configured.
2. An optical connector according to Claim 1, wherein the surface is such that, in use, the radiation in the optical guide may be reflected by said surface towards an optical element of the connector and may alternatively, in use, be such that its internal reflection properties may be frustrated to allow the radiation to pass across the surface.
3. An optical connector according to either of the preceding Claims, comprising means enabling the connector to interlock with any other optical connector which is appropriately matingly configured and which incorporates means which will frustrate the total internal reflection of the first said connector if and when the connector were to be interlocked with any such other connector; and with the interlock-enabling means of the connector being so operatively positioned that, with the connector interlocked to another suitable connector as aforesaid, the total internal reflection surface of the connector will be in sufficient proximity to the total internal reflection frustrating means of the other connector as to allow the optical radiations to pass across the connection then formed by the two interlocking connectors.
4. An optical connector according to any preceding claim, wherein said optical element towards which radiation is reflected in said first mode treats the radiation so that eye-damaging radiation remains within the connector.

5. An optical connector according to any preceding Claims, wherein said connector comprises a plurality of optical guides.
6. An optical connector according to any of the preceding Claims, wherein the interlocking means allow a connector to be first attached in a non-surface frustrating manner and then incorporates a mechanism which provides a snap-action final closure for the frustration of the surface.
7. An optical connector according to claim 5, wherein additional reflection means are provided between the optical guides and the surface.
8. An optical connector according to claim 5, wherein refractive means are provided between the optical guides and the surface which are adapted to change the radiation's direction as emitted from the optical guides to the direction of the radiation incident on the total internal reflection surface.
9. An optical connector according to claim 5, wherein the total internal reflection surface is located on at least two sides of a prism.
10. An optical connector substantially as hereinbefore described with reference to and/or illustrated in any appropriate combination of the accompanying text and/or figures.
11. A multiple-connector system comprising a first optical connector in accordance with any of the preceding claims in combination with one or more other optical connectors, each of which other connectors is appropriately matingly configured to interlock with said first optical connector in the way envisaged in claim 3 and with the result outlined therein.